

# Unifikace technických norem a technických podmínek k ochraně měkkých cílů

## Unification of Technical Standards and Technical Conditions for Soft Targets Protection

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### Abstrakt

Předložená studie upozorňuje na celosvětově řešené otázky koncentrace obyvatel do velkých měst a s tím související důsledky v podobě rizik společenských, ekologických, ekonomických a demografických. Urbánní sociologie již několik desetiletí poukazuje na důsledky koncentrace obyvatel, zahrnující migraci, sociální nerovnosti, vznik ekologických zátěží a katastrof ať již společenského nebo přírodního charakteru. Cílem této studie je poukázat na tento společenský vývoj i v souvislosti s některými současnými koncepcemi udržitelnosti (resilience) měst, především však na otázky bezpečnosti městských prostor včetně možnosti sladování a využití technických norem a technických podmínek při ochraně měkkých cílů. Prostřednictvím srovnávací analýzy je předložen pohled na veřejné prostory a jejich odlišné vnímání včetně návrhů na řešení z pohledu bezpečnosti.

### Klíčová slova

Měkké cíle, urbanismus, bezpečnost, veřejné prostory a objekty, dopravní infrastruktura, technické normy a technické podmínky.

### Abstract

The presented study draws attention to the world-wide issue of population concentration in large cities and associated consequences in the form of societal, ecological, economic and demographic risks. For decades, urban sociology has been demonstrating the consequences of population concentration, including migration, social inequalities, the emergence of environmental burdens and disasters, both social and natural. The aim of this study is to highlight this social development also in connection with some contemporary concepts of sustainability (resilience) of cities, especially urban areas security issues, including the possibility of harmonization and the use of technical standards and technical conditions for soft targets protection. The comparative analysis presents a view on public spaces and their different perceptions, including solution suggestions from a safety perspective.

### Keywords

Soft targets, urbanism, security, public spaces and buildings, transport infrastructure, technical standards and technical conditions.

### Population development and social risks

The concentration of the population in large cities is a global trend of the last few decades. The same trend can be observed in the Czech Republic, which characterizes changes in the distribution of inhabitants in the settlement and regional system, coupled with the population growth in the background of the largest cities, especially Prague. This is the continuation of the urbanization process in terms of the long-term concentration of the population in cities and settlement agglomerations (Sýkora, Muliček, 2012, 28).

*Urbanization involves the cultural, economic and social changes of society and is one of the key components of its modernization. At the same time urbanization brings concentration of population in cities and urban regions (Musil, J. 1999). Population growth is considered, from a global demographic perspective, to be one of the world's leading global problems (Hampl, 1999) representing a number of social, environmental, economic and demographic threats.*

The most significant characteristics of global population development include the unevenness of dynamic development, having quantitative and qualitative characteristics. During the 20<sup>th</sup> century, the world population almost quadrupled, where the proportion of the developed country's population is considerably lower than the share of the population in the underdeveloped countries (Hampl, 1999, 129), which is accompanied disproportions of modernization processes, such as the non-complex development of industrialization, hyper urbanization, (Hampl, 1999, 130). An exceptional increase in the world's population is certainly important in terms of both environmental sustainability and the greater danger of social conflicts, including the ecological and social behaviour of the population, the emergence of social inequality and ideological antagonisms etc. (Hampl, 1999, 131).

### Concept of postmodern city and views of contemporary city sociology

The city, as a socio-spatial organization of human communities, whose development is closely related to the urban environment that is inherently linked to industrialization, migration and the creation of a new way of life, and all other interactions in the social context, is the subject of urban sociology study. P. le Galés defines five concepts that sociology of the city examines. They are the "material city", "cultural city", "social city", "city economy" and "city politics" (Galés, 2005, 347-352). *New urban forms* is a concept that occurs at the end of the 20<sup>th</sup> century and identifies all the observed processes in the cities at the end of the 20<sup>th</sup> century, the nature of the economic, political, environmental or social (Dear, 2000, Hirt, 2012, 61, Jayne, 2006, 61). This trend is particularly highlighted in the sociology of the city, especially in the late 20<sup>th</sup> century, when the subject of research are social changes, events or movements, the transformation of the global economy and its impact on cities, the rise of neoliberal politics, conflicts and inequalities, social movements or thematisation of group or thematic identities (Ferenčuhová, 2014, 30), which underlines the importance of the city and its historical identity, with which not only all historical events, but also economic and political changes are associated (Harvey, 2012). Already at the beginning of the 21<sup>st</sup> century, alarming studies have emerged to draw attention to the concentration of the population in large cities and the consequences in the form of degraded population health in cities: McMichael (2000) draws attention to the risks associated with the behaviour of the population and the emergence of a number of epidemics, infectious diseases, respiratory diseases and other diseases due to poor quality of hygiene and pollution of indoor air and toxic wastes. High population accumulation in a defined area leads to a number of psychosocial health problems: depression, drug addiction, obesity, suicide, and escalating violence and increased crime. Physical and chemical hazards due to industrialization and high transport concentrations result in high accident rate, environmental pollution and air pollution. The quality of life of

the inhabitants of large cities, especially children, is very risky in this respect.

At present there are a number of publications pointing to other problems of large world cities: urban planning issues are discussed in connection with the safety of the population and the importance of neighbourhood in the city's organism (Jakobs, 2016), other authors discuss about the relationship between architecture and urbanism in relation to human anxiety and territorial insecurity in connection with migration, wars, ecological disasters and the environment, which is again becoming topical in today's geopolitically divided world (Scott, 2016). A very debated issue of all major cities is transport in connection with the quality of life of the inhabitants in large cities, the so-called Buchanan report is considered to be one of the most influential planning documents of the twentieth century, representing a revolutionary environmental concept in the area of sustainable urban transport. Given the high initial costs of rebuilding the city's transport system, some countries did not initially make those proposals; on the contrary, internationally, the report had a significant impact in countries such as Sweden, Italy and Australia (Buchanan, 2015). Today, many of its principles and proposals are gradually being introduced into road safety, especially in the city and town environments.

The imminent collapse of urban networks as a result of the rising population of cities (energy, water, transport, ICT) leads to the development of the so-called Smart City concept, i.e. the sustainability of cities and urban spaces. It is the implementation of principles of sustainable development in the organization of the city, which is based on the use of modern technologies in order to improve the quality of life and to make the city more efficient.

Large cities and their existence are now threatened by a number of chronic and acute shocks. Chronic stresses weaken the structure of the city on a daily or cyclical basis. These include, for example, high unemployment, congestion or inefficient public transport, persistent violence in certain places, chronic food and water shortages, earthquakes, floods, outbreaks or terrorist attacks. Acute shocks are sudden and violent events that threaten the city. Building so-called "resilient cities" means increasing their resilience to physical, social and economic problems, which are becoming larger and more frequent in the 21<sup>st</sup> century (Resilient Cities, 2016).

### Public spaces and buildings and security

Cities and their public spaces evolve over time and change as the structure of the city and its individual functions evolve. Unused and inoperable public spaces are the source of conflicts, disharmony and criminality. Urban public space is associated with spatial socialization for users, which represents the knowledge and the meanings of these places and knowledge of the rules of conduct that apply to them and is subjected to social control (Lofland, 1973, 102). One of the most important architects, Jan Gehl, was talking about the importance of urban public spaces. He introduced his concept in his book *The Life Between Buildings*, which was first published in 1971. His idea of how the city and its spaces should be optimally adapted to people who occupy them, aroused great appreciation. Although its concept has been registered in time by some developments, due to the global security situation and security risks, it is necessary to look at public spaces primarily from security perspectives.

The new security risks in the form of new forms of terrorism, migration and refugee have brought new demands on public spaces, their form and methods of use, including protection options. From the point of view of urbanism and architecture, the areas characterized by high concentration of inhabitants are attractive, have a certain symbolism, they are connected with the history of the city, they are medially interesting and very vulnerable, they usually do not contain the necessary security features, they are relatively easily accessible and their users are predominantly

anonymous. Such places are, from the city point of view parks, squares, broad streets, market places, railway stations, airports, metro, public transportation, but also malls, churches, cinemas, hospitals, theatres etc.

Human targets on „Crowded Places” are highly exposed, easily accessible and vulnerable and therefore attract the attention of terrorist attackers. For these reasons, the so-called "soft targets" are used for these spaces and their users, having this connection with the city spaces and the objects and their characteristics. By technical interventions in the urbanization of space we are able to successfully offer a "feeling of" security. All of this, at the expense of visible restrictions and interventions in the public space, returns town planning back to the time of the fortifications. Terrorist attacks on soft targets are not just a group activity, but the phenomenon of so-called "lone wolves". It is a person acting completely independently, without connection to a terrorist organization. An attacker usually provides himself with the information, gear, and equipment necessary to carry out the attack. The way the attack is done is entirely in its own direction, without the intervention of external authorities. Examples of terrorist attacks by location and character, committed by groups or individuals, are contained in a number of methodological documents used to implement prevention proposals. For these specific attacks, the urbanism of contemporary cities is unable to respond and prevent them, we only eliminate the risk from the monitored areas. The options for securing soft targets are very specific for their variability and diversity. Based on attack analyses, variants and options for securing and protecting public areas, objects, individuals and other soft targets are processed. The increasing frequency of attacks on soft targets on a global scale raises the need to develop appropriate professional methodologies, safety standards for sports, cultural and social events organizers, including other security measures that are nationwide. However, it is important to emphasize that all these measures are only capable of limiting the consequences of possible attacks, not preventing them.

### Characteristics of the public spaces and their risks

The definition of what is public space in the Czech Republic is contained in a number of legislative documents, starting with the Act on Municipalities, the Building Act and subsequent decrees on general requirements for land use. Documents dealing with public spaces and the possibilities for their use include a more detailed description and structure. The public space includes streets, city districts, residential streets, pedestrian zones, squares, parks, city gardens, forest parks, embankments, courtyards and other semi-public spaces (Metodika, 2011). The growing concentration of urban population demands increasing traffic density and traffic accessibility to other rest zones and semi-public spaces, which are thus losing their original user-friendliness as well as increasing parking requirements at the expense of urban greenery. Another issue of present-day cities is the highly discussed issue of mobility which significantly influences the perception and evaluation of the quality of public spaces, mobility being understood as the ability of people to move in space by themselves or mediated by technologies (transport, internet, telephone, ...) (Kellerman, 2006).

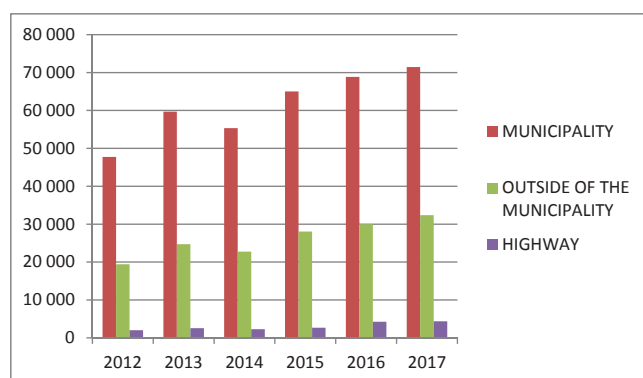
Barrier-free feature is often the main criterion for assessing urban space, which is perceived as a barrier-free area that is problem free, safe and enjoyable for life, designed to be attractive, fostering social interactions and meeting people (Gehl, 2010). In the Czech Republic decree No. 398/2009 Coll. defines persons with reduced mobility and orientation for their safe movement. In the case of large cities, map applications exist as a guide for surrounding area, objects, and buildings with barrier-free access. In some European countries, *the principle of sharing public spaces (shared spaces) has been put in place by removing barriers (curbs) between different modes of transport so that the public space again becomes a meeting place, not just a place of transport* (Striegler, 2010, 10).

Mobility, barrier-free access and transport accessibility are among the main criteria for assessing the city for life. These criteria are, at the same time, one of the risk-sensitive soft targets and the possibilities of their protection.

### Increasing the security of soft targets by using the technical conditions of the transport infrastructure

Urbanization and concentration of the population in large cities has resulted in an ever-increasing traffic intensity and the associated deteriorating quality of life of the population, including all other negative environmental and ecological consequences, which triggered, in the 1960s, the first efforts and ideas of calming urban transport, whose origin was attributed to C. Buchanan (2015). The ever-worsening transport situation, including the escalating traffic congestion, especially on urban roads, tends to calm traffic through elements known as "zone 30" (limitation of maximum permitted speed to 30 km/h), in the form of building technical elements such as islands, roundabouts, elevated bands, pillars and warning belts, and/or traffic deviation. In cooperation between traffic engineering and urban planning, there is also a flat-rate slowdown in traffic in residential areas, pedestrian zones and shared areas (Striegler, R. a kol., 2010). Despite these measures, traffic accident statistics in the Czech Republic indicate that traffic accidents in municipalities have a very high and steadily increasing tendency.

### Traffic accident statistics in the Czech Republic in the period 2012-2017 by location



Source: <http://www.autoklub.cz/dokument/12022-statistika-nehodovosti.html>

Many technical standards define the nature and use of a number of transport facilities to improve transport safety but are no longer developing and do not define their further use to increase the security of shared public spaces or buildings. This forced technical slowdown of traffic is also an important security element against the consequences of a possible attack where vehicle speed plays a significant destructive role. As an example, the use of parking facilities (pillars and pollers), which use and construction on the roads is approved by the Ministry of Transport (Škrabal, 2013, s. 3), which do not negatively affect the visual appearance criteria of the public space, which can serve as an effective and permanent barrier in the case of the accumulation of more people in a given location (market places, squares, park entrances, streets, selected buildings entrances).

### Opportunities for conceptual solutions to the protection of soft targets within the framework of coordinated cooperation

In the Czech Republic, there is a Concept for the protection of soft targets for the years 2017-2020 issued by the Minister of the Interior of the Czech Republic, which contains a system of protection of soft targets through methodical guidance and education, subsidy support, communication, cooperation, exchange

of information and sharing of good practice (Koncepcie, 2017, 22-23). By 1.9.2016, the Office for Technical Standardization, Metrology and State Testing in Prague introduced into the system of Czech state standards a new technical standard ČSN 73 44 00 Criminal Prevention - safety management in the planning, implementation and use of schools and school facilities (except for universities) and the signing of the Cooperation Agreement for securing the activities related to the adoption of the technical regulations of the European Union in the Czech technical standards in the field of crime prevention within the Secretariat CEN/TC 325 - Crime Prevention during urban construction planning and building design. Further proposals go to the area of closer coordination between transport institutions, in particular the Ministry of Transport and town planning, in the form of legislative amendments and recommendations aimed at protecting public areas by technical elements and modifications, having a multipurpose use in order to conceptually solve transport, environment, spatial planning and crime prevention. Such a proposal is already mentioned as parking facilities and their construction from the point of view of the development concept of the city, the utilization and innovation of special safety devices on the territorial roads in the form of escape zones, the building of elements to calm traffic and the prospective use of public spaces and buildings, the number, the solution would be in line with legislation in the sense of mandatory. Another propose of security is to introduce the categorization of public spaces and buildings according to the potential threat depending on their size, location and purpose, and thereby defining the obligation to provide security elements.

### Conclusion

Urbanization and concentration of the population in big cities are among the largest global problems, the consequences of which are constantly cumulative in connection with other social world events and political changes. Large cities, as a result of the rapidly rising population, are looking for paths in sustainability processes and building resilience of cities and urban areas. In many cases, however, the public space of the city is still perceived in a traditional way with missing elements aimed at the safety of soft targets, with the absence of a coordinated approach of the state institutions focused on sustainability and resilience. In practice, technical standards and conditions, for example in the field of transport, are being processed, which could be adequately used in the area of public space and building security to protection of soft targets. Mutual co-ordination and co-operation of the involved state administration institutions with urban planning and its anchoring in legislation would bring significant financial savings and cause more current views on the current as well as the perspective concept of public space from the soft targets point of view. However, it must always be emphasized that this is only a solution to possible consequences, not causes. And the solutions proposed must be adequate to the threat while assessing the acceptance of risk in society, but always with regard to the protection of human rights.

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